



Public Health  
England

Protecting and improving the nation's health

# Commissioning Cost-Effective Services for Promotion of Mental Health and Wellbeing and Prevention of Mental Ill-Health: Tool Guide

# About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

Public Health England  
Wellington House  
133-155 Waterloo Road  
London SE1 8UG  
Tel: 020 7654 8000  
[www.gov.uk/phe](http://www.gov.uk/phe)  
Twitter: @PHE\_uk  
Facebook: [www.facebook.com/PublicHealthEngland](https://www.facebook.com/PublicHealthEngland)

Prepared by: David McDaid and A-La Park, Personal Social Services Unit, London  
School of Economics and Political Science

© Crown copyright 2017

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](https://www.ogil.io) or email [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk). Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published August 2017  
PHE publications  
gateway number: 2017209

PHE supports the UN  
Sustainable Development Goals

**SUSTAINABLE  
DEVELOPMENT GOALS**



# Contents

About Public Health England	2
Background and purpose of the guide	4
Getting started	4
Intervention Choice Menu	4
Intervention sub-menus	5
Adjusting Model Parameters for local context	6
Displaying Return on Investment (ROI) Results	8
Further information	13
Appendix: Worked Example	14

## Background and purpose of the guide

This guide provides information to help the reader use a tool that models the return on investment to health and other sectors from investment in eight different interventions to promote better mental health and prevent the development of mental health problems. It estimates the cost of providing the intervention, documenting which sector e.g. health, education, is likely to pay for this, and then estimates what future costs might then be avoided to different sectors, such as health, education or criminal justice, as well as employers and wider society, as a result of better mental health.

The eight interventions include:

- two actions delivered in schools to tackle bullying and to promote social and emotional health,
- two actions to protect mental health in workplaces,
- measures to address the mental health impacts of loneliness and unmanageable debt,
- psychological support for people with long term physical health problems and increased use of psychosocial assessment and support for people who deliberately self-harm.

## Getting started

The Microsoft Excel-based spreadsheet tool has been designed to open on a Welcome page. This Welcome page provides information on the purpose of the tool and also notes when the tool was most recently updated. Clicking on the link **'Click Here to Proceed'** takes the user to the intervention menu. Most of the cells of the tool are protected and cannot be changed; but there are options to change the geographical area being considered, as well as a number of key assumptions for each of the eight models in the tool. If prompted by Microsoft Excel when opening the tool, please select the option to enable Macros so that the tool in future always opens on the Welcome page.

## Intervention Choice Menu

The intervention choice menu is shown in Figure 1. The first option that you have is to either select a specific geographical catchment area of your choice or alternatively to use the model's defaults for populations for each intervention. Initially you will see that there is a yellow box which states **"Use model default values"**. Clicking on this box shows a drop down list. As shown in Figure 1 this begins first with England, then followed in alphabetical order by all local authorities from Barking and Dagenham to York, before listing all NHS Clinical Commissioning Groups in alphabetical order from NHS Airedale, Wharfedale and Craven CCG to NHS Wyre

Forest CCG. Scroll down to select the geographical catchment area of your choice. The geographical area selected (or model defaults if not selected) **will then be used for six of eight models**. The geographical area used in these six models **can only be changed from the Intervention Choice Menu** worksheet. **The two workplace models are not linked to population data but will always be linked to the size of the workforce in any workplace.** This is because an employer will primarily have responsibility for funding / implementing workplace mental health promotion programmes rather than a CCG or local authority.

**Figure 1: The Intervention Choice Menu**

## Mental health promotion ROI tool

### Intervention choice menu

Click on cell in yellow to the right to select England as a whole, or a specific English Local Authority or NHS Clinical Commissioning Group (CCG) area. If no area is selected model default values will be used.

Click on links below to select area for potential investment

[Children: Whole school anti-bullying programme](#)

[Children: Social and Emotional Learning](#)

[Workplace: Wellbeing Programme](#)

[Workplace: Stress Prevention](#)

[Collaborative Care for Physical Health Problems](#)

[Older People: Tackling Loneliness through Volunteering and Social Activities](#)

[Adults: Debt and welfare advice](#)

[Adults: Suicide Prevention](#)

England

England  
Barking and Dagenham  
Barnet  
Barnsley  
Bath and North East Somerset  
Bedford  
Bexley  
Birmingham

The intervention choice menu shows the eight different interventions for which the return on investment can be calculated. To select any one intervention to look at simply **click on the name of the intervention**. This will take you to a separate menu for that specific intervention.

## Intervention sub-menus

The options and structures of each of these intervention sub-menus are identical. As illustrated in Figure 2, each of these menus has five options. There is an option to see further information about the intervention, in this case debt advice and support, including information on sources of assumptions in that model (Debt\_Background in this example), as well as an option to return to the intervention choice page.

**Figure 2: Example of intervention-sub menu for debt advice**

## Providing support for people in debt

Click on links below for further information about the intervention, adjust the values of some model parameters or see results

[About the debt advice and support programme](#)

[Check and/or adjust model parameters](#)

[Summary of Return on Investment](#)

[Summary of Return on Investment: Payoffs to different sectors](#)

[Return to Intervention Choice Menu](#)

There is also an option to check and /or adjust parameters that are used in the model and two ways of displaying the results of the return on investment analysis. We now describe each of these three options.

## Adjusting model parameters for local context

It is possible to check or change some of the assumptions used to calculate the return on investment for each of the eight interventions. There are different reasons for changing some of the assumptions made in the models. Assumptions might be changed, for instance, to reflect different circumstances in your local area. In the case of the self-harm and suicide prevention model, for example, you may wish to use local estimates of the rate of suicide rather than the default rates that are used in the model. The costs of the intervention might also be different in different local areas and these can also be adjusted.

It can also sometimes be helpful to change some of the assumptions made in the models to see what difference this makes to the overall return on investment. Sometimes there is a lot of uncertainty around values used in models, including on the likely effectiveness of different interventions. If you are unsure about any of the default values used in models, you might decide to input a range of lower and then higher values than the default, and see what difference they make to the overall return on investment. If, for instance, a model still generates a positive return on investment (any value greater than £1) when a very low level of effectiveness is used, or when a very high cost for implementation is used, this may be useful information to use when making a case for investing in a specific mental health intervention. We shall return to this point in the worked example at the end of this guide.

The assumptions that can be changed vary between models, but the way in which these values can be changed works in the same way in each model. Figure 3 provides an example of how this works in practice, with an illustrative excerpt from the checking and /or adjusting model parameters page of the school based resilience model (children: Social and Emotional Learning: school based resilience). The first thing to note on Figure 3 is the geographical area that has been selected is clearly shown: in this case it is the local authority covering Bedford. (Note: if either of the two workplace set models had been used, the area selected box would simply state 'Workplace', as these two models are not linked to geographical areas).

Some of the default values used in the model are shown, in this case for example, the additional costs per child to school health services for managing depression through the resilience intervention have a default value of £3.06. None of the values in the default column can be deleted but you can change as many as you wish. If you wanted to use a different value to account for differences in your local context, then an alternative value could be entered in the relevant blue coloured cell in the next column. In this example, a value of £5.25 has been entered. The model will now run using this value of £5.25 rather than the default value of £3.06. If the blue cells remain empty, default model assumptions will always be used, for example the value for training costs per teacher will continue to be £519. The population value is automatically changed to the target population in the selected geographical catchment area. In this case there are 1,969 children aged 11 in Bedford and this value in green will be used in the model rather than the default value of 150 children. If the area selected is 'Model default' the model default population, 150 children, is used instead.

**Figure 3: Checking and / or adjusting model parameters**

### Investing in School Based Resilience:

#### Checking and/or Adjusting Model Parameters

You can use your own values rather than the model's predefined assumptions by inputting these into one or more of the blue coloured cells

Area selected:	Bedford
----------------	---------

[Return to School Based Resilience Contents Page](#)  
[Return to Intervention Choice Menu](#)

Intervention Costs

	Default	Input your own value for costs if desired in the blue cells below
Training costs per teacher per school year (assumes valid for 3 years)	£519.00	

Other Costs

	Default	Input your own value for costs if desired in the cells below
6 months additional cost per child of hospital care for depression	£122.87	
6 months additional cost per child to school health services for depression	£3.06	£5.25

Other parameters		
	Default	Input your own value if desired
Reduced risk of depression if completes resilience programme	0.59	
Rate of depression in school population without intervention	0.06	
Reduction in rate of absence from school due to depression	1.5	
Uptake rate for resilience programme	0.6	
School population aged 11	150	1969

Currently selected English NHS Clinical Commissioning Group, Local Authority area, England or model default value

Bedford	1969	Population aged 11 (0 if default selected)
---------	------	--

[Return to School Based Resilience Contents Page](#)

[Return to Intervention Choice Menu](#)

## Displaying Return on Investment (ROI) results

As Figure 2 illustrated for the debt intervention contents page there are two options for displaying ROI results for each intervention:

- Summary of Return on Investment
- Summary of Return on Investment: Payoffs to Different Sectors.

The first of these provides a breakdown of the cost of the intervention and the future impacts on other health and wider costs. The second groups payoffs by sector, e.g. payoffs to local authorities, the the NHS, schools etc. We shall now look at each of these options in turn.

### 1. Summary of Return on Investment

Clicking on the option **Summary of Return on Investment**, will take you to a screen which provides a breakdown of intervention costs, costs that may be avoided and some outcome information for each year that the model covers. The time horizon for each intervention varies due to the availability of evidence. Figure 4 provides an example of the ROI for an intervention to tackle loneliness and social isolation in comparison to a no intervention or usual care in the NHS Canterbury and Coastal CCG area. The time horizon for this model is five years.



**Figure 4: Displaying Return on Investment Results**

ROI: Tackling Loneliness and Social Isolation in Older Adults

Area Selected:

NHS Canterbury and Coastal CCG

[Return to Loneliness and Social Isolation Intervention Contents Page](#)

[Return to Intervention Choice Menu](#)

Total Net Costs / Payoffs (Default values 2015 prices)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost / Saving
Total cost intervention	£114,177	£0	£0	£0	£0	£114,177
Signposting Service	£36,107	£0	£0	£0	£0	£36,107
Group Activities	£78,070	£0	£0	£0	£0	£78,070
GP Visits	£0	-£25,840	-£24,510	-£23,302	-£22,153	-£95,805
Depression Treatment	£0	-£3,240	-£3,081	-£2,937	-£2,799	-£12,058
Self-Harm Treatment	£0	-£168	-£160	-£153	-£146	-£627
Additional Volunteering through Signposting	-£7,466	-£7,553	-£7,216	-£6,895	-£6,588	-£35,717
Total cost consequences (saving if negative value)	-£7,466	-£36,801	-£34,967	-£33,286	-£31,686	-£144,206
Total net costs (saving if negative value)	£106,711	-£36,801	-£34,967	-£33,286	-£31,686	-£30,029
Cumulative Return per Pound Invested	£0.07	£0.39	£0.69	£0.99	£1.26	£1.26
Loneliness Free Years Gained	0	222	216	211	205	854

1. In Figure 4 the total cost intervention row of the ROI table shows the costs of the intervention to tackle social isolation and loneliness. In this case the total cost of the intervention shown in the total cost/saving column on the right of the table is £114,177. It can also be seen that all of this cost is incurred in Year 1. The next two rows show that the £114,177 is made up of signposting activities (£36,107) and group activities (£78,070).
2. The figures shaded in orange show the impacts of the intervention on various health services (in this case GP visits, treatments for depression and self-harm) and non-health services (in this case additional older people who decide to become volunteers as a result of signposting). For instance in Year 1 there are savings (always shown as a negative number) of £7,466 due to additional volunteering compared with not investing in the action to tackle social isolation and loneliness. In Year 2 there are savings due to fewer GP visits (£25,840), less depression treatment (£3,240), less self-harm treatment (£168) and additional volunteering (£7,553). The orange shaded figures in the **Total Cost / Saving** on the right of the table all are negative, indicating that across the five years, each of the four costs examined, GP visits, depression treatment, self-harm treatment, and value of volunteering are cost saving. For instance, GP visits to the value of £95,805 can be avoided over five years, while self-harm treatment totalling £627 can also be avoided.

3. Each ROI table, such as in Figure 4, also has a row looking at '**Total cost consequences (Saving if negative value)**'. Also shaded in orange, this figure shows the aggregate impact on these other (orange shaded) services compared with not investing in the action to tackle social isolation and loneliness. Again where a number is negative this means that there is a saving (or reduction in costs) relative to not taking action. In this example for all five years the total cost consequences are -£144,206 (as shown in the rightmost **Total Cost / Saving** column) (see also excerpt of table in Figure 5). In each year there are savings; in Year 1 there are savings of £7,466 (shown as -£7,466), with further savings of £36,801 (shown as -£36,801) in Year 2, £34,967 (shown as -£34,967) in Year 3 and so on until Year 5.
4. The '**Total net costs (saving if negative value)**' row in Figure 5 shows net costs for each year. This is the sum of the total costs of intervention and the impacts on health and other service use. In this example in Year 1 there is a total net cost of £106,711. This consists of total intervention costs in Year 1 of £114,177 offset by savings of £7,466 (from volunteering). In Year 2 there are net savings of £36,801, in Year 3 savings of £34,967 and so on. The rightmost figure in the total cost / saving column of -£30,029 represents the total net saving over five years from investing in the intervention.

**Figure 5: Excerpt of Figure 4 focused on impacts on overall costs and cumulative ROI per Pound Invested**

	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost / Saving
Total net costs (saving if negative value) <b>4</b>	£106,711	-£36,801	-£34,967	-£33,286	-£31,686	-£30,029
Cumulative Return per Pound Invested <b>5</b>	£0.07	£0.39	£0.69	£0.99	£1.26	£1.26
Loneliness Free Years Gained <b>6</b>	0	222	216	211	205	854

5. Figure 5 also highlights part of the ROI table in Figure 4 containing the **Cumulative Return per Pound Invested** row. This row of the table expresses the ROI per £1 invested for each year covered in the model. In the example in Figure 4 at the end of Year 1 the return on investment is just £0.07. This is calculated by dividing total savings in year 1 of £7,466 by total investment in the intervention of £114,177. By the end of Year 2, the ROI has increased to £0.39 because of the further savings of £36,801 from the intervention without any additional costs in Year 2. At the end of the five year period the overall ROI reaches a positive value of £1.26 in terms of costs avoided for every £1 invested in the intervention.

6. Below this return on investment row summary outcome information is presented, which is specific to each model. In this case the table shows the total number of loneliness free years gained in the intervention group compared to the no intervention/ usual care group, in other models it might refer to life, years, quality adjusted life years or other outcome measures.

Below the summary table, there are two further tables showing total cost information for the intervention and the no intervention/ usual care groups respectively. Figure 6 shows the costs associated with the delivery of usual care. For instance this would be associated with GP visit costs from Years 2 to 5 of the model of £4,829,185. This can be compared with lower total costs of GP visits in the intervention group in Figure 7 of £4,733,381.

**Figure 6: Costs for usual care cohort in model**

Costs of Usual Care Cohort						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total cost intervention	£0	£0	£0	£0	£0	£0
Signposting Service	£0	£0	£0	£0	£0	£0
Group Activities	£0	£0	£0	£0	£0	£0
GP Visits	£0	£1,291,137	£1,233,548	£1,178,532	£1,125,970	£4,829,185
Depression Treatment	£0	£81,277	£77,652	£74,188	£70,880	£303,996
Self-Harm Treatment	£0	£2,237	£2,138	£2,042	£1,951	£8,368
Additional Volunteering through Signposting	£0	£0	£0	£0	£0	£0
<b>Total cost usual care</b>	<b>£0</b>	<b>£1,374,651</b>	<b>£1,313,337</b>	<b>£1,254,762</b>	<b>£1,198,800</b>	<b>£5,141,550</b>
Loneliness Free Years Gained	1,191	1,180	1,149	1,120	1,091	5,730

**Figure 7. Costs for loneliness interevention (signposting and group activity) cohort in model**

Costs of Signposting and Group Activity Cohort						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total cost intervention	£114,177	£0	£0	£0	£0	£114,177
Signposting Service	£36,107	£0	£0	£0	£0	£36,107
Group Activities	£78,070	£0	£0	£0	£0	£78,070
GP Visits	£0	£1,265,297	£1,209,038	£1,155,230	£1,103,816	£4,733,381
Depression Treatment	£0	£78,037	£74,570	£71,251	£68,080	£291,939
Self-Harm Treatment	£0	£2,069	£1,977	£1,889	£1,805	£7,742
Additional Volunteering through Signposting	-£7,466	-£7,553	-£7,216	-£6,895	-£6,588	-£35,717
<b>Total cost</b>	<b>£106,711</b>	<b>£1,337,850</b>	<b>£1,278,370</b>	<b>£1,221,476</b>	<b>£1,167,114</b>	<b>£5,111,521</b>
Loneliness Free Years Gained	1,191	1,402	1,365	1,330	1,296	6,584

## 2. Summary of Return on Investment: Payoffs to Different Sectors

Clicking on the **Summary of Return on Investment: Payoff to Different Sectors** option provides a different way of displaying ROI information, but this time broken down by financial impacts to different sectors (Figure 8). This, for instance, has a row for programme (intervention) costs which indicates that these are likely to be borne by local authorities. It then shows again that the total costs of the programme are £114,177 and that all of these costs are incurred in Year 1. Below the row called **Payoffs**, the net costs or cost savings (if values are negative) to sectors as a result of the implementation of the intervention to tackle loneliness are estimated. For example, there are savings to the NHS of £29,249 (shown as -£29,249) in Year 2, £27,751 in Year 3 and so on. The rightmost **Total cost / saving** column indicates that total savings over the five years to the NHS are £108,489. Similarly there are savings due to additional volunteering of £35,717 made up of additional volunteering of £7,466 in Year 1, £7,553 in Year 2 and so on.

**Figure 8: Displaying Return on Investment Results by Sector**

ROI: Tackling Loneliness and Social Isolation in Older Adults

Area Selected:

NHS Canterbury and Coastal CCG

[Return to Loneliness and Social Isolation Intervention Contents Page](#)  
[Return to Intervention Choice Menu](#)

Total Net Costs / Payoffs to Different Sectors (Default values 2015 prices)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost / Saving
Programme cost: Local authorities	£114,177	£0	£0	£0	£0	£114,177
Payoffs:						
NHS	£0	-£29,249	-£27,751	-£26,392	-£25,098	-£108,489
Volunteers (Local community)	-£7,466	-£7,553	-£7,216	-£6,895	-£6,588	-£35,717
Total cost consequences (saving if negative value)	-£7,466	-£36,801	-£34,967	-£33,286	-£31,686	-£144,206
Total net costs (saving if negative value)	£106,711	-£36,801	-£34,967	-£33,286	-£31,686	-£30,029
Cumulative Return per Pound Invested	0.07	0.39	0.69	0.99	1.26	1.26
Loneliness Free Years Gained	0	222	216	211	205	854

The **Total cost consequences (saving if negative value)** row shows total net payoffs to sectors as a result of investment in the intervention to tackle loneliness for each year. For instance in Year 2, as the value shown is negative (-£36,801) there are total savings of £36,801, made up of savings to the NHS in Year 2 of £29,249 and the value of additional volunteering of £7,553. The rightmost value on the row under the **Total cost / saving** column indicates that across all five years there were total savings of £144,206.

The **Total net costs (saving if negative value)** row shows net costs for each year. This is the sum of the total costs of intervention and the payoffs to different sectors, in this case the NHS and the wider community as a result of more volunteering. In this example in Year 1 there is a total net cost of £106,711. This consists of total intervention costs in Year 1 of £114,177 offset by savings of £7,466 (from volunteering). In Year 2 there are net savings of £36,801 (£22,249

to the NHS and £7,553 from volunteering), in Year 3 there are savings of £34,967 and so on. The rightmost figure in the total cost / saving column of -£30,029 represents the total net saving over five years from investing in the intervention.

Figure 8 also shows the **Cumulative Return per Pound Invested** row. The row contains exactly the same information and is calculated in the same way as shown in the ROI shown in Figure 4. In the example in Figure 8 at the end of Year 1 the return on investment is just £0.07. This is calculated by dividing total savings in year 1 of £7,466 by total investment in the intervention of £114,177. By the end of Year 2, the ROI has increased to £0.39 because of the further savings of £36,801 from the intervention without any additional costs in Year 2. At the end of the five year period the overall ROI reaches a positive value of £1.26 in terms of costs avoided for every £1 invested in the intervention.

Below this table there is another table which provides a breakdown of the cumulative ROI, in this case £1.26, by sector and year (Figure 9). In year 1 all of £0.07 ROI is due to additional volunteering, while in year 2 there is a further ROI of £0.32, which consists of a ROI of £0.26 that accrues to the NHS and £0.07 due to additional volunteering. Again the rightmost **Total cost / saving** column indicates that across all five years the overall ROI of £1.26 consists of a ROI of £0.95 to the NHS and a ROI of £0.31 due to additional volunteering in the community.

**Figure 9: Cumulative ROI broken down by year and sector**

Cumulative ROI by sector:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost / Saving
NHS	£0.00	£0.26	£0.24	£0.23	£0.22	£0.95
Volunteers (Local community)	£0.07	£0.07	£0.06	£0.06	£0.06	£0.31
<b>Total</b>	<b>£0.07</b>	<b>£0.32</b>	<b>£0.31</b>	<b>£0.29</b>	<b>£0.28</b>	<b>£1.26</b>

## Further information

A further worked example is provided in an appendix to this guide. For further questions and feedback on the tool please e-mail: [HealthEconomics@phe.gov.uk](mailto:HealthEconomics@phe.gov.uk)

## Appendix: Worked example

We end this guide by providing a step by step worked example, this time focused on the suicide and self harm prevention intervention included in the tool, to generate results at a local authority level, in this case York. Screenshots with illustrations of most of these steps are included in this appendix.

**Step 1:** Tool opens on Welcome page. Click on link to proceed to interventions menu.

### Mental health promotion ROI tool

#### Commissioning support tool

Last updated: June 2017

#### Purpose of tool

The purpose of this tool is to report on the economic case for a number of interventions delivered in different sectors. For which there is evidence that they can help reduce the risk and/or incidence of mental health problems in individuals of different ages: children and young people, the working age population and older people. The report recognises that a holistic and collaborative approach working across sectors may be needed to improve health outcomes. The approach taken here identifies which sectors are likely to pay for each of the eight areas for intervention that we have modelled. It also looks at the potential resource use and costs that can be avoided over different time periods, depending on the nature of the evidence available.

For each of the tools you can select the adjust model data option to change model default assumptions. All values are in 2015 prices; where necessary inflated using HM Treasury GDP Deflators published in December 2016.

[Click Here to Proceed to Intervention Choice Menu](#)

**Step 2:** Click on drop down menu button to bottom right of the yellow box and scroll down down the list until you see York and then click on it. The drop down box has England at the top, followed alphabetically by all local authorities and then all NHS Clinical Commissioning Groups.

### Mental health promotion ROI tool

#### Intervention choice menu

Click on cell in yellow to the right to select England as a whole, or a specific English Local Authority or NHS Clinical Commissioning Group (CCG) area. If no area is selected model default values will be used.

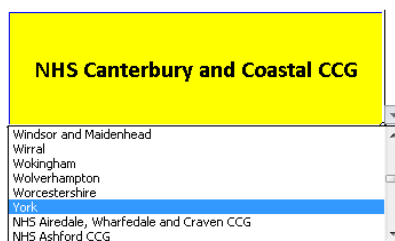
Click on links below to select area for potential investment

[Children: Whole school anti-bullying programme](#)

[Children: Social and Emotional Learning](#)

[Workplace: Wellbeing Programme](#)

[Workplace: Stress Prevention](#)



[Collaborative Care for Physical Health Problems](#)

[Older People: Tackling Loneliness through Volunteering and Social Activities](#)

[Adults: Debt and welfare advice](#)

[Adults: Suicide Prevention](#)

**Step 3:** Check that the correct area has been selected. York should be visible in the yellow box. If not repeat Step 2.

#### Intervention choice menu

Click on cell in yellow to the right to select England as a whole, or a specific English Local Authority or NHS Clinical Commissioning Group (CCG) area. If no area is selected model default values will be used.

York

Click on links below to select area for potential investment

[Children: Whole school anti-bullying programme](#)

[Collaborative Care for Physical Health Problems](#)

**Step 4:** Click on the link for Adults: Suicide Prevention. You will then be taken to the Suicide Contents Page (Shown in Step 3).

**Step 5:** The suicide contents page contains different options. If you are not sure what the intervention is you can click on the 'About the Programme' link to find out more.

## Investing in Self-Harm and Suicide Prevention

Click on links below for further information about the intervention, adjust the values of some model parameters or see results

[About the Programme](#)

[Check and/or adjust model parameters](#)

[Summary of Return on Investment](#)

[Summary of Return on Investment: Payoffs to Different Sectors](#)

[Return to Intervention Choice Menu](#)

**Step 6:** If you chose the About the Programme option click on Return to Suicide Intervention Contents Page once you have read this information.

### Investing in Self-Harm and Suicide Prevention

**Target:** Adults identified as being at risk of suicidal behaviour and adults who present at hospital following self-harm event

[Return to Suicide Intervention Contents Page](#)

**Intervention:** Increased use of psychosocial assessment in A&E to help reduce risk of further self-harm events

[Return to Intervention Choice Menu](#)

**Outcome evidence** Cochrane systematic reviews on impact of psychological interventions; evidence on impact of psychosocial assessment

**Economic Pay Offs** Impacts over 10 years on NHS services, local authorities (including costs related to coroner inquests), police costs, productivity losses related to self-harm and suicide

**Findings** Intervention has long term potential to be cost saving from NHS perspective and ROI increases when impacts on other sectors taken into account. Important to recognise this strategy needs to be combined with other approaches at national level to restrict access to means of suicide, and local/national measures to train gatekeepers to identify and refer and also to make suicide hot spots (e.g. bridges, railway lines, safer)

**Step 7:** Click on the link to **check / adjust model parameters** on the suicide intervention menu page (Shown in Step 5).

**Step 8:** Looking at the default values used by the model, you decide to change the suicide rate from the default value of 10.3 per 100,000 to a locally reported rate of 14.0 per 100,000 and instead of the default coroner cost of £569 you decide to also use a higher estimate for the cost of coroner investigations of £750. To do this you enter these values in the blue cells immediately to the right of the default values for the suicide rate and coroner costs. You leave all other values unchanged. Note that you can see in the green cell at the bottom of the parameters worksheet that the adult population in York (and therefore used in the model) is 170,157.

#### Other Costs

	Default	Input your own value for costs if desired
Immediate cost of treating self harm	£668.72	
Annual cost of subsequent health system support for individual who self harm	£1,006.00	
Coroner costs	£569.00	£750.00

Include productivity and intangible costs - choose Yes or No ☒ Yes

#### Other parameters

	Default	Input your own value if desired
Relative risk of subsequent self-harm within a year if undergoes PSA	0.59	
Probability of subsequent non-fatal self harm event within one year	0.163	
Probability of subsequent fatal self harm event within one year	0.016	
Increased rate of PSA use after hospital presenting self harm (%)	80.00%	
Current rate of PSA use after hospital presenting self harm (%)	53.20%	
Suicide rate per 100,000 adult population	10.3	14.0
Completed suicide as a percentage of all hospital presenting self-harm (%)	2.575%	
Target population	100,000	170157



**Step 9:** Having made some changes in model parameters,click on the option at the top of the page to **Return to Suicide Intervention Contents Page** and then select the option **Summary of Return on Investment**. This then shows that after ten years there is an ROI of £39.22 with 91.31 additional quality adjusted life years gained.

## ROI: Suicide and Self-Harm Prevention Programmes

Area Selected:

York

[Return to Suicide Intervention Contents Page](#)[Return to Intervention Choice Menu](#)

Total Net Costs / Payoffs (Default values 2015 prices)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total Cost / Saving
Cost of Additional Psychosocial Assessments (NHS)	£56,039	£4,006	£3,852	£3,704	£3,561	£3,424	£3,292	£3,165	£3,043	£2,925	£87,011
Ambulance Costs	£0	-£970	-£999	-£1,024	-£1,044	-£1,061	-£1,073	-£1,083	-£1,089	-£1,093	-£9,437
Immediate Treatment for Self Harm/Suicide	£0	-£8,127	-£7,921	-£7,717	-£7,515	-£7,316	-£7,120	-£6,926	-£6,735	-£6,548	-£65,924
Ongoing Psychological Treatment	£0	-£15,690	-£14,807	-£13,972	-£13,181	-£12,434	-£11,727	-£11,059	-£10,427	-£9,830	-£113,128
Productivity Losses	£0	-£29,589	-£56,512	-£80,949	-£103,070	-£123,032	-£140,987	-£157,075	-£171,426	-£184,166	-£1,046,807
Police Investigations	£0	-£1,000	-£1,909	-£2,735	-£3,482	-£4,157	-£4,764	-£5,307	-£5,792	-£6,222	-£35,368
Coroner Inquests	£0	-£1,148	-£2,193	-£3,141	-£4,000	-£4,774	-£5,471	-£6,095	-£6,652	-£7,147	-£40,622
Intangible Costs	£0	-£59,397	-£113,443	-£162,497	-£206,902	-£246,975	-£283,018	-£315,311	-£344,121	-£369,695	-£2,101,359
Total cost consequences (saving if negative value)	£0	-£115,922	-£197,784	-£272,035	-£339,194	-£399,749	-£454,160	-£502,856	-£546,243	-£584,700	-£3,412,645
Total costs (saving if negative value)	£56,039	-£111,916	-£193,932	-£268,331	-£335,633	-£396,325	-£450,868	-£499,692	-£543,201	-£581,776	-£3,325,635
Cumulative Return per Pound Invested	£0.00	£1.93	£4.91	£8.66	£13.00	£17.76	£22.84	£28.15	£33.63	£39.22	£39.22
Quality Adjusted Life Years Saved	0.03	6.36	7.44	8.46	9.42	10.32	11.17	11.97	12.72	13.42	91.31

**Step 10:** Looking at the results you can see that most of the savings are due to intangible costs and productivity losses. This is something that particularly is the case when interventions focus on the prevention of death. Therefore for the suicide prevention model only we have included an extra option to show results with and without these impacts. You will have seen in the excerpt from the **Check / Adjust Model Parameters** page for suicide prevention there is an option to **Include productivity and intangible costs - choose Yes or No** to present results with or without productivity and intangible options. To look at the results without these dimensions of cost being included, click on the drop down box link on the **Check / Adjust Model Parameters** and select the 'No' option.

Other Costs		
	Default	Input your own value for costs if desired
Immediate cost of treating self harm	£668.72	
Annual cost of subsequent health system support for individual who self harms	£1,006.00	
Coroner costs	£569.00	£750.00

Include productivity and intangible costs - choose Yes or No	Yes
	Yes
	No

**Step 11:** Having selected the No option – click on link to **Return to Suicide Intervention Contents Page** and again click on the **Summary of Return on Investment** link. You can now see that the total ROI after ten years reduces to £3.04, however the suicide intervention still appears to be a good investment, generating more than £3 in costs avoided for every £1 spent. It can also be seen that the intervention generates a positive return on investment by the end of four years – at the end of four years the return on investment is already £1.23.

## ROI: Suicide and Self-Harm Prevention Programmes

Area Selected:

York

[Return to Suicide Intervention Contents Page](#)[Return to Intervention Choice Menu](#)

Total Net Costs / Payoffs (Default values 2015 prices)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total Cost / Saving
Cost of Additional Psychosocial Assessments (NHS)	£56,039	£4,006	£3,852	£3,704	£3,561	£3,424	£3,292	£3,165	£3,043	£2,925	£87,011
Ambulance Costs	£0	-£970	-£999	-£1,024	-£1,044	-£1,061	-£1,073	-£1,083	-£1,089	-£1,093	-£9,437
Immediate Treatment for Self Harm/Suicide	£0	-£8,127	-£7,921	-£7,717	-£7,515	-£7,316	-£7,120	-£6,926	-£6,735	-£6,548	-£65,924
Ongoing Psychological Treatment	£0	-£15,690	-£14,807	-£13,972	-£13,181	-£12,434	-£11,727	-£11,059	-£10,427	-£9,830	-£113,128
Productivity Losses	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Police Investigations	£0	-£1,000	-£1,909	-£2,735	-£3,482	-£4,157	-£4,764	-£5,307	-£5,792	-£6,222	-£35,368
Coroner Inquests	£0	-£1,148	-£2,193	-£3,141	-£4,000	-£4,774	-£5,471	-£6,095	-£6,652	-£7,147	-£40,622
Intangible Costs	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Total cost consequences (saving if negative value)	£0	-£26,935	-£27,830	-£28,589	-£29,223	-£29,742	-£30,155	-£30,470	-£30,696	-£30,840	-£264,480
Total costs (saving if negative value)	£56,039	-£22,929	-£23,978	-£24,885	-£25,662	-£26,318	-£26,863	-£27,305	-£27,654	-£27,915	-£177,469
Cumulative Return per Pound Invested	£0.00	£0.45	£0.86	£1.23	£1.58	£1.91	£2.21	£2.50	£2.78	£3.04	£3.04
Quality Adjusted Life Years Saved	0.03	6.36	7.44	8.46	9.42	10.32	11.17	11.97	12.72	13.42	91.31

**Step 12:** You may want to get a breakdown of the ROI payoffs to different sectors. You will need to select the option **Return to Suicide Intervention Contents Page**. In Step 10 you excluded productivity and intangible costs from the analysis. You may therefore want to return to the **Check / Adjust Model Parameters** page and reset the option to **Include productivity and intangible costs - choose Yes or No** in order to present the breakdown of results including productivity and intangible options. Otherwise (as shown below) they will not be included in the breakdown in payoffs.

**Step 13:** To see the breakdown – from the **Suicide Intervention Contents page** select the **Summary of Return on Investment: Payoff to Different Sectors** option. Again you can see that total payoff (excluding impacts on productivity losses and the intangible costs of suicide)

Cumulative ROI by sector:											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total Cost or Saving (If negative)
NHS	£0.00	£0.41	£0.76	£1.05	£1.31	£1.53	£1.72	£1.88	£2.03	£2.17	£2.17
Local Authority	£0.00	£0.02	£0.05	£0.10	£0.15	£0.20	£0.27	£0.33	£0.40	£0.47	£0.47
Police	£0.00	£0.02	£0.05	£0.08	£0.13	£0.18	£0.23	£0.29	£0.35	£0.41	£0.41
Productivity Losses	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Intangible Losses	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
<b>Total</b>	<b>£0.00</b>	<b>£0.45</b>	<b>£0.86</b>	<b>£1.23</b>	<b>£1.58</b>	<b>£1.91</b>	<b>£2.21</b>	<b>£2.50</b>	<b>£2.78</b>	<b>£3.04</b>	<b>£3.04</b>

**Step 14:** Finally you may wish to vary some of the parameters in the model to examine the impact this has on overall results. Select **Return to Suicide Intervention Contents Page** and then click on the link for the **Check / Adjust Model Parameters** page. This time you decide to set the **Include productivity and intangible costs - choose Yes or No** option to Yes. Looking at the parameters you will notice that the model still takes account of the adjustments you have already made for coroner costs and the suicide rate. You now decide to test what happens to ROI if, in addition, PSA use is reduced to 75% from 80%.

Other Costs		
	Default	Input your own value for costs if desired
Immediate cost of treating self harm	£668.72	
Annual cost of subsequent health system support for individual who self harm	£1,006.00	
Coroner costs	£569.00	£750.00
Include productivity and intangible costs - choose Yes or No		
		Yes
Other parameters		
	Default	Input your own value if desired
Relative risk of subsequent self-harm within a year if undergoes PSA	0.59	
Probability of subsequent non-fatal self harm event within one year	0.163	
Probability of subsequent fatal self harm event within one year	0.016	
Increased rate of PSA use after hospital presenting self harm (%)	80.00%	75.00%
Current rate of PSA use after hospital presenting self harm (%)	53.20%	
Suicide rate per 100,000 adult population	10.3	14.0
Completed suicide as a percentage of all hospital presenting self-harm (%)	2.575%	
Target population	100,000	170157

Returning to the **Summary of Return on Investment page**, via the **Suicide Intervention Contents Page** you will see that the overall return on investment is now £38.60 (or £2.99 if the intangible and productivity impacts are excluded). This compared with £39.22 (or £3.04) when the rate of PSA use increased to 80%. You may vary as many or as few parameters as you wish. In the case of percentages values must be between 0 and 100.